

REMARKS

Claims 4-7 are currently pending in the patent application. The Examiner has again rejected the amended Claim 4 and the claims which depend therefrom under 35 USC 112 based on the language related to the coefficients of linear expansion. Applicants have amended the language of Claim 4 and believe that the rejection is overcome by the amendments. The Examiner has further rejected the claims under 35 USC 112 for the language related to the tape carrier package having more than two anchor holes. Applicants have amended the claim language to appropriately recite two anchor holes per tape carrier package, wherein the display device may comprise more than one tape carrier package, and wherein the circuit board had at least two anchor holes. The amendment language is well supported in the original Specification, including, for example, Figs. 1, 2, 4 and 6.

The Examiner has concluded that Claim 6 is now drawn to a new species of the invention, particularly in light of the addition of the language "on a first side" to Claim 4, from which Claim 6 depends. Applicants have amended Claim 4, which no longer recites "on a first side". Moreover,

Applicants respectfully traverse the election requirement, based on the fact that Claim 6 appropriately depends from generic Claim 4 and adds limitations thereto which do not introduce an new species or require further search. Claim 6 merely recites that the Claim 4 device include the liquid crystal driver tape carrier package and circuit board, with all of the attendant features of those structures of Claim 4, on both a first and adjacent second side of the device. Claim 6 does not introduce another invention. Applicants understand the obligation to provisionally elect, although it appears that the Examiner has concluded that Claim 6 has been constructively withdrawn from consideration by the previously-submitted amendments. Applicants provisionally elect to prosecute Claims 4-5 and 7, and provisionally withdraw Claim 6; however, Applicants traverse the requirement and further contend that an opportunity should be given to correct the problem with Claim 6 (i.e., by the present amendments) prior to any conclusion as to claim withdrawal. Applicants request reconsideration of the conclusion that Claim 6 has been withdrawn from consideration.

The Examiner has rejected Claims 4-5 under 35 USC 103 as unpatentable over the teachings of Muramatsu in view of Glaser; and, Claim 7 under 35 USC 103 as being unpatentable over the teachings of Muramatsu and Glaser in view of Yamagishi. For the reasons set forth below, Applicants respectfully assert that all of the pending claims, as amended, are definite and patentable over the cited prior art.

The presently claimed invention comprises a liquid crystal display device comprising: a liquid crystal display panel comprising a pair of glass substrates facing each other, each having electrodes for applying voltage to a liquid crystal material on a facing surface; a circuit board for supplying voltage; at least one liquid crystal driver tape carrier package having input lead conductors and output lead conductors for connecting said electrodes of said glass substrates to said circuit board and mounting at least one liquid crystal driver chip between said input lead conductors and said output lead conductors, wherein each liquid crystal driver tape carrier package has two anchor holes located in a path region of substantial propagation of stress resulting from a difference in coefficients of linear expansion between the glass substrates comprising the liquid

crystal display panel and the circuit board, said path region being located between the input lead conductors and the output lead conductors and wherein a pair of anchor holes on said liquid crystal driver tape carrier package is located with one of said at least one liquid crystal driver chip between said pair of anchor holes and wherein said circuit board has at least two anchor holes, and at least two anchor pins are inserted, one pin into each of the anchor holes, whereby said liquid crystal driver tape carrier package is soldered to the circuit board via the anchor pins and is restrained from movement due to said stress (Claim 4, and Claims 5-7 which depend directly or indirectly therefrom).

Applicants have amended the language of the independent claim to expressly recite that each liquid crystal driver tape carrier package has two anchor holes located in a path region of substantial propagation of stress resulting from a difference in coefficients of linear expansion between the glass substrates comprising the liquid crystal display panel and the circuit board, said path region being located between the input lead conductors and the output lead conductors and wherein a pair of anchor holes on said liquid crystal driver tape carrier package is located with one of

said at least one liquid crystal driver chip between said pair of anchor holes. The path region language is clearly supported by the Specification, for example at page 10, lines 21-24.

The Muramatsu patent is directed to a circuit board structure wherein press fittings are used to join the structure (see: Col. 11, line 63-Col. 12, line 2). Muramatsu has pin shaped protuberances, referred to as "fixing sections" 48, which are part of the frame section (also referred to as the "structural member") that holds the light guide. Two fixing sections are press-fitted into holes in the spacing member 60, flexible wiring board 20, and circuit board 10 on one longitudinal side of the structural member and two fixing sections are press-fitted into holes in the flexible wiring board and the circuit board on the other longitudinal side of the structural member (Col. 11, lines 37-56). A conductive member is additionally disposed between the flexible wiring board and the circuit board on the same longitudinal side. The conductive member 30 is connected to the conductive terminal 12, which is located on the same longitudinal side of the assembly on which is found the spacing member (Col. 12, lines 10-12).

Applicants respectfully assert that the Muramatsu structure does not obviate the invention as claimed. Since Muramatsu provides the pin shaped protuberances on opposite sides of the structure, it clearly does not teach or suggest a structure wherein each liquid crystal driver tape carrier package has two anchor holes located in a path region of substantial propagation of stress resulting from a difference in coefficients of linear expansion between the glass substrates comprising the liquid crystal display panel and the circuit board, said path region being located between the input lead conductors and the output lead conductors and wherein a pair of anchor holes on said liquid crystal driver tape carrier package is located with one of said at least one liquid crystal driver chip between said pair of anchor holes, as is now claimed. Applicants respectfully assert that the Muramatsu patent does not obviate the invention as claimed since Muramatsu neither teaches nor suggests the claimed structure.

Applicants further aver that the addition of the Glaser patent teachings to the Muramatsu patent teachings would not result in the invention as claimed. Glaser teaches connector pins but does not disclose anchor pins. Moreover, Glaser discloses the use of non-conductive insulated

materials around the connector pins, which would not permit the claimed soldering. Finally, Glaser neither teaches nor suggests anchor holes that are located in a path region between input and output lead conductors of the tape carrier, which is the path region of substantial propagation of stress resulting from a difference in coefficients of linear expansion between two substrates. Absent some teaching or suggestion of the claim features by at least one of the cited references, an obviousness rejection of Claims 4-5 simply cannot be maintained. Accordingly, Applicants respectfully request withdrawal of the rejections. Applicants additionally assert that Claim 6, as amended, is allowable over the cited art.

With regard to the rejection of Claim 7 based on the combination of teachings from Muramatsu and Glaser and further in view of Yamagishi, Applicants rely on the arguments presented above with respect to the non-obviousness of the claimed invention over the combined teachings of Muramatsu and Glaser. Applicants further assert that the Yamagishi patent does not provide the teachings which are missing from the combination of Muramatsu and Glaser, since Yamagishi neither teaches nor suggests anchor holes that are located in a path region of

substantial propagation of stress resulting from a difference in coefficients of linear expansion between the glass substrates, with anchor pins inserted into the anchor holes, as claimed. The Yamagishi use of a ground plane does not, alone or in combination with the Muramatsu and Glaser patent teachings, obviate the invention as recited in Claim 7. Accordingly, Applicants respectfully request withdrawal of the rejection of Claim 7.

Based on the foregoing amendments and remarks, Applicants respectfully request entry of the amendments, reconsideration of the amended claim language in light of the remarks, withdrawal of the rejections, and allowance of the claims.

Respectfully submitted,

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